

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: § Group Art Unit: 3621
§
Emrys J. Williams § Examiner: Agwumezie, Charles C
§
Serial No. 10/654,733 § Atty. Dkt. No.: 5681-20500
§
Filed: September 4, 2003 §
§
For: Method and Apparatus Having §
Multiple Identifiers for Use in §
Making Transactions §

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir/Madam:

Further to the Notice of Appeal filed December 19, 2007, Appellants present this Appeal Brief. **This Appeal Brief is timely filed within the two month period from the filing date of the Notice of Appeal. Accordingly, no extension of time fee should be due.** Appellants respectfully request that the Board of Patent Appeals and Interferences consider this appeal.

I. REAL PARTY IN INTEREST

The subject application is owned by Sun Microsystems, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware, and now having its principal place of business at 4150 Network Circle, Santa Clara, CA 95054.

II. RELATED APPEALS AND INTERFERENCES

No other appeals, interferences or judicial proceedings are known which would be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1, 2, 4-10, 12-31, 33-37 and 39 are pending in the application. Claims 3, 11, 32 and 38 have been cancelled. Claims 1, 2, 4-10, 12-31, 33-37 and 39 stand finally rejected. The rejection of claims 1, 2, 4-10, 12-31, 33-37 and 39 is being appealed. A copy of the appealed claims, as currently pending, is included in the Claims Appendix herein below.

IV. STATUS OF AMENDMENTS

No amendments have been submitted subsequent to the final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed toward an apparatus for use in transactions (*see e.g.*, page 1, line 34 – page 2, line 2; page 11, lines 5-9; item 100 of Figures 1, 3 and 5). The apparatus includes non-volatile memory containing a set of multiple identifiers associated with a same customer account; such multiple identifiers are also known to an agency providing the customer account (*see e.g.*, page 1, line 34 – page 2, line 11; page 10, lines 19-28; Figure 1, item 110). The apparatus also includes a processor operable to select, for each of multiple transactions involving the same customer account, a different identifier from the set of multiple identifiers for use with the respective transaction (*see e.g.*, page 1, line 34 – page 2, line 18; page 6, line 33 – page 7, line 2; page 12, lines 29-34; Figure 1, item 115). The apparatus further includes a communications facility operable to communicate with a terminal (*see e.g.*, page 2, line 32 – page 3, line 3; page 7, line 4-22; Figure 1, items 125 and 130). The apparatus is operable to receive bill details for a transaction from the terminal through the communications facility (*see e.g.*, page 2, line 32 – page 3, line 11; page 13, line 10-14; Figure 1, items 125 and 130). The apparatus is also operable to generate a transaction record from the bill details (*see e.g.*, page 2, line 32 – page 3, line 11; page 12, line 36 – page 13, line 3; Figure 4, item 450). Additionally, the apparatus is operable to transmit the transaction record to the terminal through the communications facility (*see e.g.*, page 13, lines 16 – 26; Figure 3, item 301; Figure 4, item 460).

Independent claim 9 is directed toward a method for making a transaction with a device (*see e.g.* page 11, lines 5-8; items 410-480 of Figure 4). The method includes storing within the device a set of multiple identifiers associated with a same customer account; such multiple identifiers are also known to an agency providing the customer account (*see e.g.*, page 5, lines 1-5; page 10, lines 19-28; Figure 1, item 110). The method also includes, for each of multiple transactions involving the same customer account, the device selecting a different identifier from the set of multiple identifiers for use with the respective transaction (*see e.g.*, page 5, lines 1-5, line 18; page 6, line 33 – page 7, line 2; page 12, lines 29-34; Figure 1, item 115). The method also includes, for

each of multiple transactions involving the same customer account, engaging a terminal (*see e.g.*, page 11, lines 26-33; item 410 of Figure 4). The method further includes, for each of the multiple transactions involving the same customer account, the device receiving bill details for the respective transaction from the terminal (*see e.g.*, page 12, lines 18-27; item 430 of Figure 4). Additionally, the method includes, for each of the multiple transactions involving the same customer account, the device generating a transaction record from the bill details (*see e.g.*, page 2, line 32 – page 3, line 11; page 12, line 36 – page 13, line 3; Figure 4, item 450). The method also includes, for each of the multiple transactions involving the same customer account, the device transmitting the transaction record to the terminal (*see e.g.*, page 13, lines 16 – 26; Figure 3, item 301; Figure 4, item 460).

Independent claim 15 is directed toward an apparatus for use in transactions (*see e.g.*, page 1, line 34 – page 2, line 2; page 11, lines 5-9; item 100 of Figures 1, 3 and 5). The apparatus includes means for storing a set of multiple identifiers associated with a same customer account; such multiple identifiers are also known to an agency providing the customer account (*see e.g.*, page 1, line 34 – page 2, line 11; page 10, lines 19-28; Figure 1, item 110). The apparatus further includes means for selecting, for each of multiple transactions involving the same customer account, a different identifier from the set of multiple identifiers for use with the respective transaction (*see e.g.*, page 1, line 34 – page 2, line 18; page 6, line 33 – page 7, line 2; page 12, lines 29-34; Figure 1, item 115). The apparatus also includes means for creating a respective transaction record for each of the multiple transactions (*see e.g.*, page 2, line 32 – page 3, line 11; page 12, line 36 – page 13, line 3; Figure 4, item 450). Such respective transaction record includes a digital signature that is generated using a cryptographic key (*see e.g.*, page 3, lines 5-11; page 12, line 36 – page 13, line 3; item 450 of Figure 4).

Independent claim 16 is directed toward an apparatus for use in making a transaction (*see e.g.*, page 1, line 34 – page 2, line 2; page 11, lines 5-9; item 100 of Figures 1, 3 and 5). The apparatus includes non-volatile memory containing a set of multiple identifiers; such multiple identifiers are also known to an agency associated with

the transaction (*see e.g.*, page 1, line 34 – page 2, line 11; page 10, lines 19-28; Figure 1, item 110). The apparatus also includes a processor operable to randomly or pseudo-randomly select one identifier from the set of multiple identifiers for use in any transaction (*see e.g.*, page 12, lines 29-34; Figure 4, item 440).

Independent claim 17 is directed toward a method that includes opening an account record in an agency computer system; such agency is to provide the account (*see e.g.*, page 8, lines 19-26; Figure 2, items 210-270). The method also includes generating a set of multiple identifiers to be used for transactions on the account (*see e.g.*, page 10, lines 19-28; page 10, lines 35 – page 11, line 3; Figure 2, item 260). The method further includes storing the set of multiple identifiers in the agency computer system (*see e.g.*, page 11, lines 5-8; Figure 3, item 332). Additionally, the method includes storing the set of multiple identifiers on a portable transaction device (*see e.g.*, page 11, lines 5-8; Figure 1, item 110). The method also includes receiving a public key from the portable transaction device (*see e.g.*, page 10, lines 11-17; Figure 2, item 250). The method further includes receiving a transaction record including a digital signature from the portable transaction device (*see e.g.*, page 13, lines 16-36; Figure 4, items 460-480). The method also includes decrypting and validating the digital signature with the public key (*see e.g.*, page 14, lines 10-32).

Independent claim 26 is directed toward a method for performing a transaction at a terminal using a portable transaction device (*see e.g.*, page 11, lines 5-9; Figure 4, items 410-480). The method includes generating a bill for the transaction at the terminal (*see e.g.*, page 12, lines 18-27; item 430 of Figure 4). The method also includes engaging the portable transaction device with the terminal (*see e.g.*, page 11, lines 26-33; item 410 of Figure 4). The method further includes transmitting the bill from the terminal to the transaction device (*see e.g.*, page 12, lines 18-27; item 430 of Figure 4). Additionally, the method includes selecting, for each of multiple transactions involving a same customer account, a different identifier from a set of multiple identifiers stored on the transaction device for use in the transaction (*see e.g.*, page 1, line 34 – page 2, line 18; page 6, line 33 – page 7, line 2; page 12, lines 29-34; Figure 4, item 440). The method

further includes generating a transaction record on the transaction device, the transaction record incorporating information from the bill and the selected identifier (*see e.g.*, page 12, line 36 – page 13, line 3; Figure 4, item 450). The method also includes transmitting the transaction record to the terminal (*see e.g.*, page 13, lines 16-26; Figure 4, item 460).

Independent claim 30 is directed toward a method of operating a computer account system at an agency (*see e.g.*, page 5, lines 24-30). Such agency maintains multiple customer accounts on the computer account system (*see e.g.*, page 9, lines 20-24; Figure 3, items 330-332). Each customer account has a set of multiple identifiers associated therewith (*see e.g.*, page 10, lines 30-33). The method includes receiving a request for a transaction on a customer account; such request includes a digital signature generated by a transaction device associated with the customer account (*see e.g.*, page 13, lines 16-36; Figure 4, item 480). The method also includes verifying the digital signature (*see e.g.*, page 5, lines 15-22; page 14, lines 10-32). The method further includes accessing an identifier within the request (*see e.g.*, page 14, lines 10-15). Additionally, the method includes determining which set of multiple identifiers the accessed identifier belongs to, and from this determining a customer account for the transaction (*see e.g.*, page 14, lines 10-32). The method also includes updating the determined customer account in respect of the transaction (*see e.g.*, page 14, lines 34-37).

Independent claim 36 is directed toward a computer account system at an agency (*see e.g.*, page 5, lines 24-30; Figure 3, item 330-332). The system includes multiple customer account records (*see e.g.*, page 9, lines 20-24; Figure 3, items 330-332). Each customer account record incorporates a set of multiple identifiers associated therewith (*see e.g.*, page 10, lines 30-33). The system also includes an index that maps identifiers to corresponding account records (*see e.g.*, page 10, lines 30-33; Figure 3, item 334). The system is configured to receive a request for a transaction on a customer account; such request includes a digital signature generated by a transaction device associated with the customer account (*see e.g.*, page 13, lines 16-36; Figure 4, item 480). The system is further configured to access an identifier within the request in order to determine which set of multiple identifiers and hence which customer account the accessed identifier

belongs to (*see e.g.*, page 14, lines 10-32). The system is also configured to access the digital signature within the request and use a cryptographic key to validate the digital signature (*see e.g.*, page 4, lines 9-17; page 5, lines 15-22; page 14, lines 10-32).

Independent claim 39 is directed toward a computer account system at an agency (*see e.g.*, page 5, lines 24-30; Figure 3, item 330-332). The system includes means for storing multiple customer account records (*see e.g.*, page 9, lines 20-24; Figure 3, items 330-332). Each customer account record incorporates a set of multiple identifiers associated therewith (*see e.g.*, page 10, lines 30-33). The system also includes means for mapping identifiers to corresponding account records (*see e.g.*, page 10, lines 30-33; Figure 3, item 334). The system further includes means for accessing an identifier within a received transaction request to determine which set of multiple identifiers and hence which customer account the accessed identifier belongs to (*see e.g.*, page 14, lines 10-32). The system also includes means for accessing a digital signature included within the received transaction request and validating the digital signature (*see e.g.*, page 4, lines 9-17; page 5, lines 15-22; page 14, lines 10-32). Additionally, the system includes means for updating the customer account to which the accessed identifier belongs in accordance with the received transaction request (*see e.g.*, page 14, lines 34-37).

The summary above describes various examples and embodiments of the claimed subject matter; however, the claims are not necessarily limited to any of these examples and embodiments. The claims should be interpreted based on the wording of the respective claims.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 15 and 39 stand finally rejected under 35 U.S.C. § 112 as being indefinite.
2. Claims 1-2, 4-8, 9-14, 16, 26 and 28-29 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker et al. (U.S. Patent Application Publication 2006/0218098) (hereinafter “Walker”) in view of Wynn (U.S. Patent RE38,137 E) (hereinafter “Wynn”).
3. Claims 15, 17-25, 30-31, 33-35, 36-37 and 39 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Sarcanin (U.S Patent Application Publication 2005/0246292 A1) (hereinafter “Sarcanin”).
4. Claim 6 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Mann, III et al. (U.S. Patent Application Publication 2006/0122943 A1) (hereinafter “Mann”).
5. Claim 8 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Pitroda (U.S. Patent Application Publication 2005/0247777 A1) (hereinafter “Pitroda”).
6. Claim 24 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Sarcanin in further view of Wynn.
7. Claim 27 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Wynn in further view of Sarcanin.

VII. ARGUMENT

First Ground of Rejection:

Claims 15 and 39 stand finally rejected under 35 U.S.C. § 112 as being indefinite. Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claim 15

In regard to claim 15, Appellant asserts that it is clear from Appellant's specification that the corresponding structure for the means limitations of claim 15 is payment device 100 (*see e.g.*, Figure 1 (item 100), Figure 3, Figure 4, and associated descriptions). Device 100 is described as a physical device including various physical components, e.g., processor, memory, transmitter, receiver, etc. The functions of the various means recited in the claim may be performed by the various physical components of the payment device.

Claim 39

Furthermore, in regard to claim 39, Appellant asserts that it is clear from Appellant's specification that the corresponding structure for the means limitations of claim 39 is database 332 of Figure 3 and computer 330 of Figure 5 (*see e.g.*, Figure 3, item 332; Figure 5, item 330; and associated descriptions), which are physical devices.

Second Ground of Rejection:

Claims 1-2, 4-8, 9-14, 16, 26 and 28-29 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Wynn. Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed

under their respective subheadings.

Claims 1, 2, 5 and 7

In regard to claim 1, Walker and Wynn, taken singly or in combination, fail to teach or suggest a communications facility operable to communicate with a terminal, wherein the apparatus is operable to a) receive bill details for a transaction from the terminal through the communications facility b) generate a transaction record from the bill details [received from the terminal], and c) transmit the transaction record to the same terminal through the communications facility. Thus, according to the specific limitations of claim 1, the apparatus is operable to receive bill details for a transaction from the terminal through the communications facility, generate a transaction record from the bill details received from the same terminal, and transmit the transaction record to the same terminal through the communications facility. Neither Walker nor Wynn, taken singly or in combination, teach or suggest such an apparatus. The Examiner acknowledges that Walker fails to disclose an apparatus operable to receive bill details for a transaction from the terminal through the communications facility; the Examiner relies on Wynn to disclose these limitations. The Examiner cites Figure 6 and column 2 (lines 25-35 and 40-50) of Wynn. Figure 6 of Wynn illustrates examples of fields that make up a financial transaction record in Wynn's system. Column 2 of Wynn does disclose that his universal financial data card (UFDC) includes a processor capable of "compil[ing] a transaction record." However, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest transmitting his transaction record to the same terminal from which bill details for the transaction are received. Column 2, lines 30-32 of Wynn disclose that his transaction records may be "compiled from financial transaction data communicated between the universal financial data card and a card reader" (emphasis added). Presumably, the Examiner considers such card reader to be equivalent to Appellant's claimed terminal. **However, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest transmitting his transaction record to the same card reader from which his "financial transaction data" is received.** Accordingly, Wynn and Walker,

taken singly or in combination, fail to teach or suggest receiving bill details for a transaction from the terminal through the communications facility, generating a transaction record from the bill details, and transmitting the transaction record to the same terminal through the communications facility.

Moreover, Appellant notes that Wynn describes various versions of his card reader. For instance, in Figure 3 and associated description, Wynn describes a “financial institution version of the card reader.” In Figure 4 and associated description, Wynn describes a “merchant/commercial institution version of the card reader.” Additionally, in Figure 5 and associated description, Wynn describes a “residential version of the card reader.” **While Wynn describes various versions of his card reader (each having distinct functionality), nowhere does Wynn (even when combined with Walker) disclose that his UFDC interacts with a particular version of his card reader according to the specific limitations of claim 1.** More specifically, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest that his UFDC receives bill details for a transaction from a particular version of his card reader (which, presumably, the Examiner equates to Appellant’s claimed terminal) through the communications facility and transmits the transaction record to the same version of his card reader through the communications facility.

For instance, in regard to the “merchant/commercial institution version” of his card reader, Wynn discloses:

Advantageously, memory circuit 384 may also be used to store the name of the commercial establishment at which card reader 202 is located, as well as the date, the time, the type of goods or services purchased by the holder of UFDC 201, for transmitting that data to UFDC 201 to be included in the stored financial transaction record. In this manner, this information does not have to be manually keyed in by the operator of card reader 202 for every transaction. Alternatively, that data may be entered manually via keypad 372 which, in one embodiment, represents an alphanumeric keypad. (column 9, lines 46-56, emphasis added)

As demonstrated above, Wynn discloses that the “merchant/commercial institution version” of his card reader may transmit various information to the UFDC including store

name, date, time, as well as the type of goods or services purchased. However, nowhere does Wynn (even when combined with the teachings of Walker) disclose that a transaction record generated from such information is transmitted to the “merchant/commercial institution version” of his card reader.

In further example, in regard to the “residential version” of his card reader, Wynn discloses:

FIG. 5 shows a residential version of card reader 202 in accordance with one aspect of the present invention. Note that card reader 202 of FIG. 5 preferably does not include the frequency select circuit 350 (seen in FIGS. 3 and 4), since there is typically only one card reader residing at the card holder's residence. Via computer 370, the card holder can retrieve account information such as balance, payable party, date, amount, checks written, monthly/yearly statements, monthly/yearly spreadsheet, and to perform operations involving the financial accounts stored in UFDC 201, such as home banking, automatic payments, and the like. (column 9, lines 57-67, emphasis added)

As demonstrated above, the card holder can retrieve account information via a computer coupled to the “residential version” of the card reader; however, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest that account information is received from the “residential version” of the card reader. Appellant also notes that the description of “account information” above does not include Wynn’s “transaction records.”

Since Wynn (even when combined with the teachings of Walker) fails to teach or suggest that his UFDC receives bill details for a transaction from a particular version of his card reader and transmits the transaction record to the same version of his card reader, Wynn and Walker cannot be said to teach the specific limitations of claim 1 including a communications facility operable to communicate with a terminal, wherein the apparatus is operable to a) receive bill details for a transaction from the terminal through the communications facility b) generate a transaction record from the bill details [received from the terminal], and c) transmit the transaction record to the same terminal through the communications facility.

Furthermore, Walker's device is not operable to communicate with a terminal; instead, Walker teaches a cardholder communicating with a merchant. The Examiner cites paragraph [0004] which mentions "wireless connection." However, such "wireless connection" pertains to the communication between a merchant and a central database. The "wireless connection" has nothing to with functionality of Walker's device. The Examiner further cites the phrase "cardholder transmits the single use number to merchant." Presumably, the Examiner is referring to Figure 3A, which illustrates the cardholder, not Walker's device, transmitting a single-use credit card number to a merchant. **In fact, by explicitly teaching that communication with merchants is a responsibility of the cardholder, Walker explicitly does not teach an apparatus that includes a communications facility operable to communicate with a terminal.**

Accordingly, one skilled in the arts of cryptography and security would recognize that it does not makes sense to modify the teachings of Walker with the teachings of Wynn to enable Walker's device to communicate with a terminal, much less utilizing such a communications facility as specified by the limitations of claim 1. More specifically, one skilled in the arts of cryptography and security would recognize that including a communication facility operable to communicate with a terminal would undermine the security of user accounts in Walker's system by potentially exposing the nonce to third parties through such a communications facility. Walker teaches that his nonce is stored in device memory 104 (*see e.g.*, paragraph [0053]). Walker also teaches that "[w]hile an attacker cannot generate a valid credit card number without knowledge of the user's private key, knowing the user's nonce undermines the security of the account." Accordingly, adding a communications facility operable to communicate with a terminal would unnecessarily expose Walker's nonce, which is stored in memory 104, to external systems thereby potentially undermining the security of user accounts in Walker's system. Accordingly, one skilled in the art would explicitly avoid modifying the teachings of Walker with the teachings of Wynn, which includes a UFDC configured to communicate with external systems (e.g., Wynn's card reader, computer 370, etc.).

Appellant further asserts that the Examiner has not stated a proper reason as to why one of ordinary skill in the art would be motivated to combine the teachings of Wynn with the teachings of Walker. The Examiner asserts:

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Walker et al and incorporate the apparatus, wherein the apparatus is operable to: receive bill details for a transaction from the terminal through the communications facility in view of the teachings of Wynn, because such will ensure transaction record tracking. (emphasis added)

However, one seeking to "ensure transaction record tracking" would simply use the teachings of Wynn. The Examiner has merely stated a reason for one skilled in the art to use the teachings of Wynn, not a reason to combine the teachings of Wynn with the teachings of Walker in such a way that would result in Appellant's claimed invention.

Thus, for at least the reasons presented above, the rejection of claim 1 is unsupported by the cited art and removal thereof is respectfully requested.

Claims 9, 10, 13 and 14

In regard to claim 9, Walker and Wynn, taken singly or in combination, fails to teach or suggest a method comprising, for each of a plurality of transactions involving the same customer account, a device receiving bill details for the respective transaction from a terminal, the device generating a transaction record from the bill details [received from the terminal], and the device transmitting the transaction record to the terminal. Thus, according to the specific limitations of claim 9, the method includes the device receiving bill details for a transaction from the terminal, the device generating a transaction record from the bill details received from the same terminal, and the device transmitting the transaction record to the same terminal through the communications facility. Neither Walker nor Wynn, taken singly or in combination, teach or suggest such a method. The Examiner acknowledges that Walker fails to disclose such limitations; the Examiner relies on Wynn to disclose these

limitations. The Examiner cites Figure 6 and column 2 (lines 25-35 and 40-50) of Wynn. Figure 6 of Wynn illustrates examples of fields that make up a financial transaction record in Wynn's system. Column 2 of Wynn does disclose that his universal financial data card (UFDC) includes a processor capable of "compil[ing] a transaction record." However, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest transmitting his transaction record to the same terminal from which bill details for the transaction are received. Column 2, lines 30-32 of Wynn disclose that his transaction records may be "compiled from financial transaction data communicated between the universal financial data card and a card reader" (emphasis added). Presumably, the Examiner considers such card reader to be equivalent to Appellant's claimed terminal. **However, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest transmitting his transaction record to the same card reader from which his "financial transaction data" is received.** Accordingly, Wynn and Walker, taken singly or in combination, fail to teach or suggest receiving bill details for a transaction from the terminal through the communications facility, generating a transaction record from the bill details, and transmitting the transaction record to the same terminal through the communications facility.

Moreover, Appellant notes that Wynn describes various versions of his card reader. For instance, in Figure 3 and associated description, Wynn describes a "financial institution version of the card reader." In Figure 4 and associated description, Wynn describes a "merchant/commercial institution version of the card reader." Additionally, in Figure 5 and associated description, Wynn describes a "residential version of the card reader." **While Wynn describes various versions of his card reader (each having distinct functionality), nowhere does Wynn (even when combined with Walker) disclose that his UFDC interacts with a particular version of his card reader according to the specific limitations of claim 9.** More specifically, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest that his UFDC receives bill details for a transaction from a particular version of his card reader (which, presumably, the Examiner equates to Appellant's claimed terminal) through the

communications facility and transmits the transaction record to the same version of his card reader through the communications facility.

For instance, in regard to the “merchant/commercial institution version” of his card reader, Wynn discloses:

Advantageously, memory circuit 384 may also be used to store the name of the commercial establishment at which card reader 202 is located, as well as the date, the time, the type of goods or services purchased by the holder of UFDC 201, for transmitting that data to UFDC 201 to be included in the stored financial transaction record. In this manner, this information does not have to be manually keyed in by the operator of card reader 202 for every transaction. Alternatively, that data may be entered manually via keypad 372 which, in one embodiment, represents an alphanumeric keypad. (column 9, lines 46-56, emphasis added)

As demonstrated above, Wynn discloses that the “merchant/commercial institution version” of his card reader may transmit various information to the UFDC including store name, date, time, as well as the type of goods or services purchased. However, nowhere does Wynn (even when combined with the teachings of Walker) disclose that a transaction record generated from such information is transmitted to the “merchant/commercial institution version” of his card reader.

In further example, in regard to the “residential version” of his card reader, Wynn discloses:

FIG. 5 shows a residential version of card reader 202 in accordance with one aspect of the present invention. Note that card reader 202 of FIG. 5 preferably does not include the frequency select circuit 350 (seen in FIGS. 3 and 4), since there is typically only one card reader residing at the card holder's residence. Via computer 370, the card holder can retrieve account information such as balance, payable party, date, amount, checks written, monthly/yearly statements, monthly/yearly spreadsheet, and to perform operations involving the financial accounts stored in UFDC 201, such as home banking, automatic payments, and the like. (column 9, lines 57-67, emphasis added)

As demonstrated above, the card holder can retrieve account information via a computer coupled to the “residential version” of the card reader; however, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest that account

information is received from the “residential version” of the card reader. Appellant also notes that the description of “account information” above does not include Wynn’s “transaction records.”

Since Wynn (even when combined with the teachings of Walker) fails to teach or suggest that his UFDC receives bill details for a transaction from a particular version of his card reader and transmits the transaction record to the same version of his card reader, Wynn and Walker cannot be said to teach the specific limitations of claim 9 including a method comprising, for each of a plurality of transactions involving the same customer account, a.) a device receiving bill details for the respective transaction from a terminal, b.) the device generating a transaction record from the bill details [received from the terminal], and c.) the device transmitting the transaction record to the terminal.

Furthermore, Walker’s device is not operable to communicate with a terminal; instead, Walker teaches a cardholder communicating with a merchant. The Examiner cites paragraph [0004] which mentions “wireless connection.” However, such “wireless connection” pertains to the communication between a merchant and a central database. The “wireless connection” has nothing to with functionality of Walker’s device. The Examiner further cites the phrase “cardholder transmits the single use number to merchant.” Presumably, the Examiner is referring to Figure 3A, which illustrates the cardholder, not Walker’s device, transmitting a single-use credit card number to a merchant. **In fact, by explicitly teaching that communication with merchants is a responsibility of the cardholder, Walker explicitly does not teach a method that includes a.) a device receiving bill details for the respective transaction from a terminal, b.) the device generating a transaction record from the bill details [received from the terminal], and c.) the device transmitting the transaction record to the terminal.**

Accordingly, one skilled in the arts of cryptography and security would recognize that it does not makes sense to modify the teachings of Walker with the teachings of Wynn to enable Walker’s device to communicate with a terminal, much

less utilizing such a communications facility as specified by the limitations of claim

9. More specifically, one skilled in the arts of cryptography and security would recognize that including a communication facility operable to communicate with a terminal would undermine the security of user accounts in Walker's system by potentially exposing the nonce to third parties through such a communications facility. Walker teaches that his nonce is stored in device memory 104 (, *see e.g.*, paragraph [0053]). Walker also teaches that “[w]hile an attacker cannot generate a valid credit card number without knowledge of the user's private key, knowing the user's nonce undermines the security of the account.” Accordingly, adding a communications facility operable to communicate with a terminal would unnecessarily expose Walker's nonce, which is stored in memory 104, to external systems thereby potentially undermining the security of user accounts in Walker's system. Accordingly, one skilled in the art would explicitly avoid modifying the teachings of Walker with the teachings of Wynn, which includes a UFDC configured to communicate with external systems (e.g., Wynn's card reader, computer 370, etc.).

Appellant further asserts that the Examiner has not stated a proper reason as to why one of ordinary skill in the art would be motivated to combine the teachings of Wynn with the teachings of Walker. The Examiner asserts:

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Walker et al and incorporate the apparatus, wherein the apparatus is operable to: receive bill details for a transaction from the terminal through the communications facility in view of the teachings of Wynn, because such will ensure transaction record tracking. (emphasis added)

However, one seeking to “ensure transaction record tracking” would simply use the teachings of Wynn. The Examiner has merely stated a reason for one skilled in the art to use the teachings of Wynn, not a reason to combine the teachings of Wynn with the teachings of Walker in such a way that would result in Appellant's claimed invention.

Thus, for at least the reasons presented above, the rejection of claim 9 is unsupported by the cited art and removal thereof is respectfully requested.

Claims 26 and 28

In regard to claim 26, Walker and Wynn, taken singly or in combination, fails to teach or suggest a method comprising a.) transmitting the bill from the terminal to the transaction device, b.) generating a transaction record on the transaction device, the transaction record incorporating information from the bill (transmitted from the same terminal) and the selected identifier, and c.) transmitting the transaction record to the (same) terminal. Neither Walker nor Wynn, taken singly or in combination, teach or suggest such a method. The Examiner acknowledges that Walker fails to disclose such limitations; the Examiner relies on Wynn to disclose these limitations. The Examiner cites Figure 6 and column 2 (lines 25-35 and 40-50) of Wynn. Figure 6 of Wynn illustrates examples of fields that make up a financial transaction record in Wynn's system. Column 2 of Wynn does disclose that his universal financial data card (UFDC) includes a processor capable of "compil[ing] a transaction record." However, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest transmitting his transaction record to the same terminal from which bill details for the transaction are received. Column 2, lines 30-32 of Wynn disclose that his transaction records may be "compiled from financial transaction data communicated between the universal financial data card and a card reader" (emphasis added). Presumably, the Examiner considers such card reader to be equivalent Appellant's claimed terminal. **However, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest transmitting his transaction record to the same card reader from which his "financial transaction data" is received.** Accordingly, Wynn and Walker, taken singly or in combination, fail to teach or suggest a method comprising a.) transmitting the bill from the terminal to the transaction device, b.) generating a transaction record on the transaction device, the transaction record incorporating information from the bill (transmitted from the same terminal) and the selected identifier, and c.) transmitting the transaction record to the (same) terminal.

Moreover, Appellant notes that Wynn describes various versions of his card reader. For instance, in Figure 3 and associated description, Wynn describes a "financial

institution version of the card reader.” In Figure 4 and associated description, Wynn describes a “merchant/commercial institution version of the card reader.” Additionally, in Figure 5 and associated description, Wynn describes a “residential version of the card reader.” **While Wynn describes various versions of his card reader (each having distinct functionality), nowhere does Wynn (even when combined with Walker) disclose that his UFDC interacts with a particular version of his card reader according to the specific limitations of claim 26.** More specifically, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest that his UFDC receives bill details for a transaction from a particular version of his card reader (which, presumably, the Examiner equates to Appellant’s claimed terminal) through the communications facility and transmits the transaction record to the same version of his card reader through the communications facility.

For instance, in regard to the “merchant/commercial institution version” of his card reader, Wynn discloses:

Advantageously, memory circuit 384 may also be used to store the name of the commercial establishment at which card reader 202 is located, as well as the date, the time, the type of goods or services purchased by the holder of UFDC 201, for transmitting that data to UFDC 201 to be included in the stored financial transaction record. In this manner, this information does not have to be manually keyed in by the operator of card reader 202 for every transaction. Alternatively, that data may be entered manually via keypad 372 which, in one embodiment, represents an alphanumeric keypad. (column 9, lines 46-56, emphasis added)

As demonstrated above, Wynn discloses that the “merchant/commercial institution version” of his card reader may transmit various information to the UFDC including store name, date, time, as well as the type of goods or services purchased. However, nowhere does Wynn (even when combined with the teachings of Walker) disclose that a transaction record generated from such information is transmitted to the “merchant/commercial institution version” of his card reader.

In further example, in regard to the “residential version” of his card reader, Wynn discloses:

FIG. 5 shows a residential version of card reader 202 in accordance with one aspect of the present invention. Note that card reader 202 of FIG. 5 preferably does not include the frequency select circuit 350 (seen in FIGS. 3 and 4), since there is typically only one card reader residing at the card holder's residence. Via computer 370, the card holder can retrieve account information such as balance, payable party, date, amount, checks written, monthly/yearly statements, monthly/yearly spreadsheet, and to perform operations involving the financial accounts stored in UFDC 201, such as home banking, automatic payments, and the like. (column 9, lines 57-67, emphasis added)

As demonstrated above, the card holder can retrieve account information via a computer coupled to the “residential version” of the card reader; however, nowhere does Wynn (even when combined with the teachings of Walker) teach or suggest that account information is received from the “residential version” of the card reader. Appellant also notes that the description of “account information” above does not include Wynn’s “transaction records.”

Since Wynn (even when combined with the teachings of Walker) fails to teach or suggest that his UFDC receives bill details for a transaction from a particular version of his card reader and transmits the transaction record to the same version of his card reader, Wynn and Walker cannot be said to teach the specific limitations of claim 26 including a method comprising a.) transmitting the bill from the terminal to the transaction device, b.) generating a transaction record on the transaction device, the transaction record incorporating information from the bill (transmitted from the same terminal) and the selected identifier, and c.) transmitting the transaction record to the (same) terminal.

Furthermore, Walker's device is not operable to communicate with a terminal; instead, Walker teaches a cardholder communicating with a merchant. The Examiner cites paragraph [0004] which mentions “wireless connection.” However, such “wireless connection” pertains to the communication between a merchant and a central database. The “wireless connection” has nothing to with functionality of Walker's device. The Examiner further cites the phrase “cardholder transmits the single use number to merchant.” Presumably, the Examiner is referring to Figure 3A, which illustrates the cardholder, not Walker's device, transmitting a single-use credit card

number to a merchant. **In fact, by explicitly teaching that communication with merchants is a responsibility of the cardholder, Walker explicitly does not teach a method that includes a.) transmitting the bill from the terminal to the transaction device, b.) generating a transaction record on the transaction device, the transaction record incorporating information from the bill (transmitted from the terminal) and the selected identifier, and c.) transmitting the transaction record to the terminal.**

Accordingly, one skilled in the arts of cryptography and security would recognize that it does not makes sense to modify the teachings of Walker with the teachings of Wynn to enable Walker's device to communicate with a terminal, much less utilizing such a communications facility as specified by the limitations of claim 26. More specifically, one skilled in the arts of cryptography and security would recognize that including a communication facility operable to communicate with a terminal would undermine the security of user accounts in Walker's system by potentially exposing the nonce to third parties through such a communications facility. Walker teaches that his nonce is stored in device memory 104 (, *see e.g.*, paragraph [0053]). Walker also teaches that “[w]hile an attacker cannot generate a valid credit card number without knowledge of the user's private key, knowing the user's nonce undermines the security of the account.” Accordingly, adding a communications facility operable to communicate with a terminal would unnecessarily expose Walker's nonce, which is stored in memory 104, to external systems thereby potentially undermining the security of user accounts in Walker's system. Accordingly, one skilled in the art would explicitly avoid modifying the teachings of Walker with the teachings of Wynn, which includes a UFDC configured to communicate with external systems (e.g., Wynn's card reader, computer 370, etc.).

Appellant further asserts that the Examiner has not stated a proper reason as to why one of ordinary skill in the art would be motivated to combine the teachings of Wynn with the teachings of Walker. The Examiner asserts:

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Walker et al and incorporate the apparatus, wherein the apparatus is operable to:

receive bill details for a transaction from the terminal through the communications facility in view of the teachings of Wynn, because such will ensure transaction record tracking. (emphasis added)

However, one seeking to “ensure transaction record tracking” would simply use the teachings of Wynn. The Examiner has merely stated a reason for one skilled in the art to use the teachings of Wynn, not a reason to combine the teachings of Wynn with the teachings of Walker in such a way that would result in Appellant’s claimed invention.

Thus, for at least the reasons presented above, the rejection of claim 26 is unsupported by the cited art and removal thereof is respectfully requested.

Claim 16

In regard to claim 16, Appellant asserts the Examiner has not even attempted to state a *prima facie* rejection of claim 16. The Examiner rejects claim 16 under the same rational as claim 1; however, the limitations of claim 16 substantially differ from the limitations of claim 1. More specifically, claim 16 recites a processor operable to randomly or pseudo-randomly select one identifier from said set of multiple identifiers for use in any transaction, whereas claim 1 does not. Furthermore, Appellant asserts neither Walker nor Wynn (taken singly or in combination) teach or suggest a processor operable to randomly or pseudo-randomly select one identifier from said set of multiple identifiers for use in any transaction.

Thus, for at least the reasons presented above, the rejection of claim 16 is unsupported by the cited art and removal thereof is respectfully requested.

Claim 4

In regard to claim 4, Walker in view of Wynn fails to teach or suggest wherein the transaction record includes a digital signature that is generated using a cryptographic key contained within the non-volatile memory. The Examiner cites

paragraphs [0023], [0042], [0065], and [0066] of Walker. First, Appellant notes that the cited art fails to mention anything about a transaction record that includes a digital signature. Furthermore, the Examiner relies on the “transaction-specific data” of Walker (paragraph [0022]) to teach Appellant’s claimed transaction record. However, nowhere does Walker teach or suggest that such “transaction-specific data” includes a digital signature.

Thus, for at least the reasons presented above, Appellant asserts that the rejection of claim 4 is unsupported by the cited art and removal thereof is respectfully requested.

Claim 12

In regard to claim 4, Walker in view of Wynn fails to teach or suggest wherein the transaction record includes a digital signature that is generated using a cryptographic key contained within the non-volatile memory. The Examiner cites paragraphs [0023], [0042], [0065], and [0066] of Walker. First, Appellant’s note that the cited art fails to mention anything about a transaction record that includes a digital signature. Furthermore, the Examiner relies on the “transaction-specific data” of Walker (paragraph [0022]) to teach Appellant’s claimed transaction record. However, nowhere does Walker teach or suggest that such “transaction-specific data” includes a digital signature.

Thus, for at least the reasons presented above, Appellant asserts that the rejection of claim 12 is unsupported by the cited art and removal thereof is respectfully requested.

Claim 6

In regard to claim 6, Appellant asserts Walker in view of Wynn fails to teach or suggest wherein said apparatus is provided within inert packaging to allow implantation into the human body. Neither Walker nor Wynn mention anything at all about an

apparatus provided within inert packaging to allow implantation into the human body. Appellant also notes that the Examiner fails to cite any specific portion of the cited art that teaches the aforementioned limitations. Accordingly, the Examiner has not stated a *prima facie* rejection of claim 6.

Appellant further notes that the Examiner's inclusion of claim 6 as being unpatentable over Walker in view of Wynn appears to be a typographical error. More specifically, Appellant notes that the Examiner asserts that Walker "failed to explicitly disclose the apparatus, wherein said apparatus is provided within inert packaging to allow implantation into the human body" (*see e.g.*, Page 17, lines 1-3 of the Final Office Action mailed September 19, 2007).

Thus, for at least the reasons presented above, Appellant asserts that the rejection of claim 6 is improper and unsupported by the cited art and removal thereof is respectfully requested.

Claim 8

In regard to claim 8, Appellant asserts Walker in view of Wynn fails to teach or suggest first and second power circuits that are activated by said first and second class of terminals respectively, wherein activation of said second power circuit does not allow account information to be entered or updated in at least certain portions of said non-volatile memory. Neither Walker nor Wynn mention anything at all about first and second power circuits that are activated by said first and second class of terminals respectively, wherein activation of said second power circuit does not allow account information to be entered or updated in at least certain portions of said non-volatile memory. Appellant also notes that the Examiner fails to cite any specific portion of the cited art that teaches the aforementioned limitations. Accordingly, the Examiner has not stated a *prima facie* rejection of claim 8.

Appellant further notes that the Examiner's inclusion of claim 8 as being unpatentable over Walker in view of Wynn appears to be a typographical error. More specifically, Appellant notes that the Examiner asserts that Walker "failed to explicitly disclose the apparatus, further comprising first and second power circuits that are activated by said first and second class of terminals respectively, wherein activation of said power circuit does not allow account information to be entered or updated in at least certain portions of said non-volatile memory" (*see e.g.*, Page 17, second paragraph from bottom, Final Office Action mailed September 19, 2007).

Thus, for at least the reasons presented above, Appellant asserts that the rejection of claim 8 is improper and unsupported by the cited art and removal thereof is respectfully requested.

Claim 29

In regard to claim 29, Walker in view of Wynn fails to teach or suggest wherein prior to transmitting the transaction record from the terminal to the agency computer, the terminal incorporates its own copy of the bill into the transaction record. The Examiner cites paragraph [0045] and paragraph [0047] of Walker, neither of which mention anything at all about a terminal incorporating its own copy of the bill into the transaction record. Paragraphs [0045] and [0047] do mention that a "check digit" may be included in the single-use credit card number before transmission to the central credit card processing system. However, no one of ordinary skill in the art would confuse a "check digit" with a bill. Accordingly, Walker in view of Wynn fails to teach or suggest wherein prior to transmitting the transaction record from the terminal to the agency computer, the terminal incorporates its own copy of the bill into the transaction record.

Thus, for at least the reasons presented above, Appellant asserts that the rejection of claim 29 is unsupported by the cited art and removal thereof is respectfully requested.

Third Ground of Rejection:

Claims 15, 17-25, 30-31, 33-35, 36-37 and 39 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Sarcanin. Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claim 15

Walker and Sarcanin (taken singly or in combination) fail to teach or suggest means for creating a respective transaction record for each of the plurality of transactions, wherein the respective transaction comprises a digital signature that is generated using a cryptographic key. The Examiner acknowledges that Walker fails to teach or suggest these limitations; the Examiner relies on Sarcanin to teach the limitations. The Examiner cites [0027], which is reproduced below:

sending a debit request message from the client terminal to the payment server in response to the draw request message, the debit request message including a first digital signature, the first digital signature for verifying that the debit request message originated from the client terminal, the first digital signature being generated at the client terminal using the smart card information stored at the client terminal; (emphasis added)

While Sarcanin teaches a “debit request message” that includes a digital signature, Sarcanin’s “debit request message” is not the same as a *transaction record*, much less a respective transaction record comprising a digital signature that is generated using a cryptographic key. In fact the “debit request message” is generated before any associated transaction has been fully processed as illustrated by paragraph [0029], which describes Sarcanin’s authentication server checking the debit request message before the transaction can proceed.

Furthermore, Appellant asserts that the Examiner has failed to provide a proper reason as to why one of ordinary skill in the art would have been motivated to combine the teachings of Walker and the teachings of Sarcanin. More specifically, the Examiner

asserts that it would have been obvious to one of ordinary skill in the art to modify Walker with the teachings of Sarcanin “because such will ensure adequate transaction security.” However, since Walker’s system provides “adequate transaction security” (paragraph [0001], Walker’s system provides “high level of security for financial transactions”) one seeking to “ensure adequate transaction security” **would simply use the teachings of Walker alone**, not combine the teachings of Walker with another reference to create Appellant’s claimed invention.

Thus, for at least the reasons presented above, the rejection of claim 15 is unsupported by the cited art and removal thereof is respectfully requested.

Claims 17, 18, 19, 22 and 23

In regard to claim 17, Walker and Sarcanin (taken singly or in combination) fails to teach or suggest receiving a public key from the portable transaction device, receiving a transaction record comprising a digital signature from the portable transaction device, and decrypting and validating the digital signature with the public key. In regard to receiving a public key from the portable transaction device, the Examiner cites paragraph [0009] and [0023] of Walker which are reproduced below:

In addition, credit card information and transaction information may be encrypted using well known encryption schemes like RSA's public key cryptography. For example, SET is a joint Visa/MasterCard standard for encrypting credit card numbers transmitted over the Internet. (paragraph 0009)

According to another aspect of our invention, a device for facilitating credit transactions is provided which includes a processing unit including a cryptographic processor. The device also includes an input unit connected to the processing unit for inputting information thereto, and a display unit connected to the processing unit for displaying a processing result. In addition, the device includes a memory device connected to the processing unit. The memory device contains a private cryptographic key, a first data element, a second data element and a program adapted to be executed by the processing unit. In accordance with the program, the processing unit encrypts the first data element using the private cryptographic key and the second data element, modifies the second data element, combines the encrypted first data element and the second data

element to generate a single-use financial account identifier, and displays the single-use financial account identifier using the display unit. (paragraph 0023)

Appellant asserts that, while mentioning public key cryptograph, paragraph [0009] fails to mention anything about receiving a public key from a portable transaction device. Furthermore, paragraph [0023] describes Walker's device generating and displaying a single-use financial account identifier. **However, Walker fails to mention anything about his device providing a public key. Additionally, Walker fails to mention anything about his device receiving a public key.** Accordingly, the Examiner's reliance on Walker to teach *receiving a public key from a portable transaction device* is improper.

Walker and Sarcanin (taken singly or in combination) fail to teach or suggest receiving a transaction record comprising a digital signature from the portable transaction device, and decrypting and validating the digital signature with the public key (received from a portable transaction device). The Examiner acknowledges that Walker fails to teach or suggest these limitations; the Examiner relies on Sarcanin to teach the limitations. The Examiner cites [0027], which is reproduced below:

sending a debit request message from the client terminal to the payment server in response to the draw request message, the debit request message including a first digital signature, the first digital signature for verifying that the debit request message originated from the client terminal, the first digital signature being generated at the client terminal using the smart card information stored at the client terminal; (emphasis added)

While Sarcanin teaches a “debit request message” that includes a digital signature, Sarcanin’s “debit request message” is not the same as a *transaction record*, much less a transaction record provided by a portable transaction device. In fact the “debit request message” is generated before any associated transaction has been fully processed as illustrated by paragraph [0029], which describes Sarcanin’s authentication server checking the debit request message before the transaction can proceed.

In regard, to decrypting and validating the digital signature with the public key (received from a portable transaction device), the Examiner cites paragraph [0095] of Sarcanin. However, paragraph [0095] fails to mention anything about decrypting and validating the digital signature of Sarcanin's debit request message (on which the Examiner presumably relies to teach Appellant's claimed transaction record comprising a digital signature. Instead, at paragraph [0029], Sarcanin discloses:

comparing at the authentication server the first digital signature contained in the debit request message to a first check digital signature generated at the authentication server using the smart card information stored at the authentication server to determine if the transaction can proceed, the transaction being terminated and a second termination message being sent from the authentication server to the client terminal for display to the user if the first digital signature does not match the first check digital signature;

As demonstrated above, instead of *decrypting and validating the digital signature with a public key received from a portable transaction device*, Sarcanin teaches *comparing the digital request message's digital signature to a digital signature generated at the authentication server using the smart card information stored at the authentication server*. Clearly, decrypting and validating the digital signature with a public key received from a portable transaction device is not the same as comparing the digital request message's digital signature to a digital signature generated at the authentication server using the smart card information stored at the authentication server.

Furthermore, Appellant further asserts that the Examiner has not stated a proper reason as to why one of ordinary skill in the art would be motivated to combine the teachings of Sarcanin with the teachings of Walker. More specifically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to modify Walker with the teachings of Sarcanin "because such will ensure adequate transaction security." However, since Walker's system provides "adequate transaction security" (paragraph [0001], Walker's system provides "high level of security for financial transactions") one seeking to "ensure adequate transaction security" **would simply use the teachings of Walker alone**, not combine the teachings of Walker with another reference to create Appellant's claimed invention.

Thus, for at least the reasons presented above, the rejection of claim 17 is unsupported by the cited art and removal thereof is respectfully requested.

Claims 30, 31, 33, 34 and 35

In regard to claim 30, the cited art does not teach receiving a request for a transaction on a customer account, wherein the request comprises a digital signature generated by a transaction device associated with the customer account, verifying the digital signature, accessing an identifier within the request, determining which set of multiple identifiers the accessed identifier belongs to, and from this determining a customer account for the transaction, and updating the determined customer account in respect of the transaction. The Examiner attempts to combine the use of a digital signature in Sarcanin with Walker's teachings. However, such a modification to Walker's teachings would not make sense. The primary purpose of Walker's system is to provide adequate transaction security through the use of single use financial account identifiers, which can only be used for one transaction (thereby providing transaction security against stolen or compromised account identifiers). Since the identifiers are single use, there would be no need to apply a digital signature.

Furthermore, Appellant asserts that the Examiner has failed to provide a proper reason as to why one of ordinary skill in the art would have been motivated to combine the teachings of Walker and the teachings of Sarcanin. More specifically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to modify Walker with the teachings of Sarcanin "because such will ensure adequate transaction security." However, since Walker's system provides "adequate transaction security" (paragraph [0001], Walker's system provides "high level of security for financial transactions") one seeking to "ensure adequate transaction security" **would simply use the teachings of Walker alone**, not combine the teachings of Walker with another reference to create Appellant's claimed invention.

Thus, for at least the reasons presented above, Appellant asserts the Examiner's rejection of claim 30 is improper and removal thereof is respectfully requested.

Claim 36, 37

In regard to claim 36, the cited art does not teach a computer account system at an agency, said system comprising a plurality of customer account records, wherein each customer account record incorporates a set of multiple identifiers associated therewith, and an index that maps identifiers to corresponding account records, wherein the system is configured to receive a request for a transaction on a customer account, wherein the request comprises a digital signature generated by a transaction device associated with the customer account, access an identifier within the request in order to determine which set of multiple identifiers and hence which customer account the accessed identifier belongs to, and access the digital signature within the request and use a cryptographic key to validate the digital signature. The Examiner attempts to combine the use of a digital signature in Sarcin with Walker's teachings. However, such a modification to Walker's teachings would not make sense. The primary purpose of Walker's system is to provide adequate transaction security through the use of single use financial account identifiers, which can only be used for one transaction (thereby providing transaction security against stolen or compromised account identifiers). Since the identifiers are single use, there would be no need to apply a digital signature.

Furthermore, Appellant asserts that the Examiner has failed to provide a proper reason as to why one of ordinary skill in the art would have been motivated to combine the teachings of Walker and the teachings of Sarcin. More specifically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to modify Walker with the teachings of Sarcin "because such will ensure adequate transaction security." However, since Walker's system provides "adequate transaction security" (paragraph [0001], Walker's system provides "high level of security for financial transactions") one seeking to "ensure adequate transaction security" **would simply use**

the teachings of Walker alone, not combine the teachings of Walker with another reference to create Appellant's claimed invention.

Thus, for at least the reasons presented above, Appellant asserts the Examiner's rejection of claim 36 is improper and removal thereof is respectfully requested.

Claim 39

In regard to claim 39, the cited art does not teach a computer account system at an agency, said system comprising means for storing a plurality of customer account records, wherein each customer account record incorporates a set of multiple identifiers associated therewith, means for mapping identifiers to corresponding account records, means for accessing an identifier within a received transaction request to determine which set of multiple identifiers and hence which customer account the accessed identifier belongs to, means for accessing a digital signature comprised within the received transaction request and validating the digital signature, and means for updating the customer account to which the accessed identifier belongs in accordance with the received transaction request. The Examiner attempts to combine the use of a digital signature in Sarcanin with Walker's teachings. However, such a modification to Walker's teachings would not make sense. The primary purpose of Walker's system is to provide adequate transaction security through the use of single use financial account identifiers, which can only be used for one transaction (thereby providing transaction security against stolen or compromised account identifiers). Since the identifiers are single use, there would be no need to apply a digital signature.

Furthermore, Appellant asserts that the Examiner has failed to provide a proper reason as to why one of ordinary skill in the art would have been motivated to combine the teachings of Walker and the teachings of Sarcanin. More specifically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to modify Walker with the teachings of Sarcanin "because such will ensure adequate transaction security." However, since Walker's system provides "adequate transaction

security" (paragraph [0001], Walker's system provides "high level of security for financial transactions") one seeking to "ensure adequate transaction security" **would simply use the teachings of Walker alone**, not combine the teachings of Walker with another reference to create Appellant's claimed invention.

Thus, for at least the reasons presented above, Appellant asserts the Examiner's rejection of claim 39 is improper and removal thereof is respectfully requested.

Claim 20

In regard to claim 20, Appellant asserts the Examiner has not even attempted to state a *prima facie* rejection of claim 20. The Examiner fails to cite any specific portion of Walker or Sarcin that teaches or suggests wherein the identifiers are sparsely distributed across the set of possible identifiers. While Walker does mention multiple "single-use credit card numbers," neither Walker nor Sarcin (considered singly or in combination) teach or suggest wherein the identifiers are sparsely distributed across the set of possible identifiers.

Thus, for at least the reasons presented above, the rejection of claim 20 is improper and unsupported by the cited art and removal thereof is respectfully requested.

Claim 21

In regard to claim 21, Walker in view of Sarcin fails to teach or suggest wherein the identifiers within said set of multiple identifiers are unrelated to one another. The Examiner cites paragraph [0046] of Walker, which is reproduced below:

The device then generates a single-use credit card number (step 360); details of the card number generation are explained below. The number is unique for the specific input variables set by the cardholder or by the device. It may also be unique to the specific date and time to avoid so-called "replay" attacks for that card at that merchant with that exact purchase amount. The single-use credit card number is preferably a 16-digit number that can be recognized as a conventional credit card number.

As demonstrated above, Walker describes that card numbers may be unique to the “specific input variables set by the cardholder or by the device” and “specific date and time.” However, irrespective of whether Walker’s card numbers are unique with respect to the aforementioned variables, Walker explicitly teaches that each card number is related by an account number in each single-use credit card number. For instance, Walker teaches each single-use credit card number is the result of a concatenation of an encrypted nonce (C), an account number (A) and an initialization variable (IV) (paragraph [0060]). Walker further teaches that “the term ‘account number’ refers to an unchanging identifier for the cardholder which is stored in a database maintained by the card issuer” (paragraph [0048]) (emphasis added). Since Walker teaches that each of his single-use credit card numbers include an unchanging account number, Walker (even when combined with Sarcanin) **explicitly does not teach** wherein the identifiers within said set of multiple identifiers are unrelated to one another.

Thus, for at least the reasons presented above, the rejection of claim 21 is unsupported by the cited art and removal thereof is respectfully requested.

Claim 24

In regard to claim 24, Appellant asserts Walker in view of Sarcanin fails to teach or suggest making a prepayment onto the account prior to using the account for transactions. Neither Walker nor Sarcanin mention anything at all about making a prepayment onto the account prior to using the account for transactions. Appellant also notes that the Examiner fails to cite any specific portion of the cited art that teaches the aforementioned limitations. Accordingly, the Examiner has not stated a *prima facie* rejection of claim 24.

Appellant further notes that the Examiner’s inclusion of claim 24 as being unpatentable over Walker in view of Sarcanin appears to be a typographical error. More specifically, Appellant notes that the Examiner asserts “both Walker and Sarcanin failed

to explicitly disclose the method, further comprising making a prepayment onto the account prior to using the account for transactions (*see e.g.*, Page 18, second paragraph from bottom, Final Office Action mailed September 19, 2007).

Thus, for at least the reasons presented above, Appellant asserts that the rejection of claim 24 is improper and unsupported by the cited art and removal thereof is respectfully requested.

Claim 25

In regard to claim 25, Walker in view of Sarcanin fails to teach or suggest establishing an identity of a person who is to hold the account prior to opening the account. The Examiner cites Figure 10 and paragraph [0097] of Walker. In Figure 10, Walker illustrates the operations performed by his device to display a single-use credit card number. Figure 10 has nothing to do with opening an account. Since Figure 10 illustrates the selection of single-use credit card numbers that assigned by the credit card issuer (*see e.g.*, paragraph [0090]), the operations of Figure 10 clearly happen after an account has already been opened for an account holder. Similarly, paragraph [0097] describes the actions of the card holder and merchant at the time of a transaction, which clearly take place after the account holder has received their device (i.e., after their account has been opened). Accordingly, Walker (even when combined with Sarcanin) fails to teach or suggest establishing an identity of a person who is to hold the account prior to opening the account.

Thus, for at least the reasons presented above, Appellant asserts that the rejection of claim 25 is unsupported by the cited art and removal thereof is respectfully requested.

Fourth Ground of Rejection:

Claim 6 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Mann. Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claim 6

In regard to claim 6, Walker in view of Mann fails to teach or suggest wherein said apparatus is provided within inert packaging to allow implantation into the human body. The Examiner acknowledges that Walker fails to teach this limitation. The Examiner relies on Mann and cites paragraphs [0042] and [0051], which are reproduced below:

Further, it should be appreciated that selection of an alias and a personal identification entry may not involve simply the selection of alphanumerics. That is, an account-holder may choose to select an alternative type of alias or personal identification entry. For example, such alternative types may include fingerprint recognition, gene identification, DNA identification, use of biometrics, i.e., using biological parameters of a person, retina identification, or voice recognition, for example. (paragraph [0042])

As described above, the alias and PIE may utilize numbers, such as for example a telephone number. However, the method of the invention is not limited to use of numbers. That is, any of numbers, alphanumerics, names, phrases, or combinations of numbers, alphanumerics, names or phrases, for example, might be utilized for either the alias or the PIE. Also, alternative techniques of identification might be utilized for either the alias or the PIE, such as human characteristics. These further forms of identification might include fingerprint recognition, gene identification, DNA identification, use of biometrics, i.e., using biological parameters of a person, retina identification, or voice recognition, for example. (paragraph [0051])

While Mann describes alternative types of aliases, such as “fingerprint recognition, gene identification, DNA identification, use of biometrics, i.e., using biological parameters of a person, retina identification, or voice recognition,” Mann fails to mention anything at

all about *implantation into the human body*, much less *wherein said apparatus is provided within inert packaging to allow implantation into the human body*.

Furthermore, Appellant asserts that the Examiner has failed to provide a proper reason as to why one of ordinary skill in the art would have been motivated to combine the teachings of Walker and the teachings of Pitroda. More specifically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to modify Walker with the teachings of Pitroda “in order to ensure adequate security.” However, since Walker’s system provides “adequate security” (Walker, paragraph [0001], Walker’s system provides “high level of security”) one seeking to “ensure adequate security” **would simply use the teachings of Walker alone**, not combine the teachings of Walker with another reference to create Appellant’s claimed invention.

Thus, for at least the reasons presented above, Appellant asserts that the rejection of claim 6 is unsupported by the cited art and removal thereof is respectfully requested.

Fifth Ground of Rejection:

Claim 8 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Pitroda. Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claim 8

In regard to claim 8, Appellant asserts the rejection of claim 8 is unsupported by the cited for at least the reasons presented above with respect to claim 1. **Furthermore, Appellant asserts that the Examiner has failed to provide a proper reason as to why one of ordinary skill in the art would have been motivated to combine the teachings of Walker and the teachings of Pitroda.** More specifically, the Examiner asserts that it

would have been obvious to one of ordinary skill in the art to modify Walker with the teachings of Pitroda “in order to ensure adequate security.” However, since Walker’s system provides “adequate security” (paragraph [0001], Walker’s system provides “high level of security”) one seeking to “ensure adequate security” **would simply use the teachings of Walker alone**, not combine the teachings of Walker with another reference to create Appellant’s claimed invention.

Thus, for at least the reasons presented above, Appellant asserts that the rejection of claim 8 is unsupported by the cited art and removal thereof is respectfully requested.

Sixth Ground of Rejection:

Claim 24 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Sarcanin in further view of Wynn. Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claim 24

Appellant asserts the rejection of claim 24 is unsupported by the cited art for at least the reasons presented above with respect to claim 17.

Seventh Ground of Rejection:

Claim 27 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Walker in view of Wynn in further view of Sarcanin. Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claim 27

Appellant asserts the rejection of claim 27 is unsupported by the cited art for at least the reasons presented above with respect to claim 26. **Furthermore, Appellant asserts that the Examiner has failed to provide a proper reason as to why one of ordinary skill in the art would have been motivated to combine the teachings of Wynn and Sarcanin with the teachings of Walker.** More specifically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to modify Walker with the teachings of Sarcanin “because such will ensure adequate transaction security.” However, since Walker’s system provides “adequate transaction security” (Walker, paragraph [0001], Walker’s system provides “high level of security for financial transactions”) one seeking to “ensure adequate transaction security” **would simply use the teachings of Walker alone**, not combine the teachings Walker with another reference to create Appellant’s claimed invention.

CONCLUSION

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1, 2, 4-10, 12-31, 33-37 and 39 was erroneous, and reversal of his decision is respectfully requested.

The Commissioner is authorized to charge the appeal brief fee of \$510.00 and any other fees that may be due to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5681-20500/RCK.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

The claims on appeal are as follows.

1. An apparatus for use in transactions, comprising:

non-volatile memory containing a set of multiple identifiers associated with a same customer account, wherein said multiple identifiers are also known to an agency providing said customer account,

a processor operable to select, for each of a plurality of transactions involving the same customer account, a different identifier from said set of multiple identifiers for use with the respective transaction, and

a communications facility operable to communicate with a terminal,

wherein the apparatus is operable to:

receive bill details for a transaction from the terminal through the communications facility,

generate a transaction record from the bill details, and

transmit the transaction record to the terminal through the communications facility.

2. The apparatus of claim 1, wherein each of the identifiers in said set of multiple identifiers is allocated by the agency uniquely to the apparatus.

4. The apparatus of claim 1, wherein the transaction record includes a digital signature that is generated using a cryptographic key contained within the non-volatile memory.

5. The apparatus of claim 1, wherein the transaction record is encrypted.

6. The apparatus of claim 1, wherein said apparatus is provided within inert packaging to allow implantation into the human body.

7. The apparatus of claim 1, wherein said apparatus is operable to engage a first class of terminals external to the apparatus for making a transaction, and a second class of terminals external to the apparatus to enter or to update account information stored in the non-volatile memory.

8. The apparatus of claim 7, further comprising first and second power circuits that are activated by said first and second class of terminals respectively, wherein activation of said second power circuit does not allow account information to be entered or updated in at least certain portions of said non-volatile memory.

9. A method for making a transaction with a device, comprising:

storing within the device a set of multiple identifiers associated with a same customer account, wherein said multiple identifiers are also known to an agency providing said customer account, and

for each of a plurality of transactions involving the same customer account:

the device selecting a different identifier from said set of multiple identifiers for use with the respective transaction,

engaging a terminal,

the device receiving bill details for the respective transaction from the terminal,

the device generating a transaction record from the bill details, and

the device transmitting the transaction record to the terminal.

10. The method of claim 9, wherein each of the identifiers in said set of multiple identifiers is allocated by the agency uniquely to the device.

12. The method of claim 9, wherein the transaction record includes a digital signature that is generated using a cryptographic key contained within the non-volatile memory.

13. The method of claim 9, further comprising encrypting the transaction records.

14. The method of claim 9, further comprising encrypting the transaction record.

15. Apparatus for use in transactions, including:

means for storing a set of multiple identifiers associated with a same customer account, wherein said multiple identifiers are also known to an agency providing said customer account,

means for selecting, for each of a plurality of transactions involving the same customer account, a different identifier from said set of multiple identifiers for use with the respective transaction, and

means for creating a respective transaction record for each of the plurality of transactions, wherein the respective transaction record comprises a digital signature that is generated using a cryptographic key.

16. Apparatus for use in making a transaction, including:

non-volatile memory containing a set of multiple identifiers, wherein said multiple identifiers are also known to an agency associated with the transaction, and

a processor operable to randomly or pseudo-randomly select one identifier from said set of multiple identifiers for use in any transaction.

17. A method, comprising:

opening an account record in an agency computer system, wherein said agency is to provide the account,

generating a set of multiple identifiers to be used for transactions on the account,

storing the set of multiple identifiers in the agency computer system,

storing the set of multiple identifiers on a portable transaction device,

receiving a public key from the portable transaction device;

receiving a transaction record comprising a digital signature from the portable transaction device, and

decrypting and validating the digital signature with the public key.

18. The method of claim 17, wherein the identifiers are unique to the account for the agency.

19. The method of claim 18, further comprising adding the identifiers to an index, wherein said index maps from an identifier to the corresponding account.

20. The method of claim 17, wherein the identifiers are sparsely distributed across the set of possible identifiers.

21. The method of claim 17, wherein the identifiers within said set of multiple identifiers are unrelated to one another.

22. The method of claim 17, wherein the identifiers are generated on the agency computer system, and are transmitted to the portable transaction device for storage thereon.

23. The method of claim 17, further comprising generating at least one cryptographic key for use with the account.

24. The method of claim 17, further comprising making a prepayment onto the account prior to using the account for transactions.

25. The method of claim 17, further comprising establishing an identity of a person who is to hold the account prior to opening the account.

26. A method for performing a transaction at a terminal using a portable transaction device, comprising:

generating a bill for the transaction at the terminal,

engaging the portable transaction device with the terminal,

transmitting the bill from the terminal to the transaction device,
selecting, for each of a plurality of transactions involving a same customer account, a different identifier from a set of multiple identifiers stored on the transaction device for use in the transaction,
generating a transaction record on the transaction device, the transaction record incorporating information from the bill and the selected identifier, and
transmitting the transaction record to the terminal.

27. The method of claim 26, wherein the transaction record includes a digital signature from the transaction device.

28. The method of claim 26, wherein the transaction device is associated with a customer account, and wherein said multiple identifiers are also known to an agency providing said customer account, the method further comprising:

transmitting the transaction record from the terminal to an agency computer,
accessing an account record for the customer account based on the selected identifier included in the transaction record,
validating the transaction, and
updating the account record in respect of the validated transaction.

29. The method of claim 28, wherein prior to transmitting the transaction record from the terminal to the agency computer, the terminal incorporates its own copy of the bill into the transaction record.

30. A method of operating a computer account system at an agency, said agency maintaining a plurality of customer accounts on the computer account system, wherein each customer account has a set of multiple identifiers associated therewith, the method comprising:

receiving a request for a transaction on a customer account, wherein the request comprises a digital signature generated by a transaction device associated with the customer account,

verifying the digital signature,

accessing an identifier within the request,

determining which set of multiple identifiers the accessed identifier belongs to, and from this determining a customer account for the transaction, and

updating the determined customer account in respect of the transaction.

31. The method of claim 30, wherein determining which set of multiple identifiers the accessed identifier belongs to comprises accessing an index that maps identifiers to corresponding account records.

33. The method of claim 30, further comprising opening a new customer account by:

creating a new account record for the new customer account, and

storing a set of multiple identifiers associated with the new customer account into the new account record.

34. The method of claim 33, further comprising:

generating the set of multiple identifiers associated with the new customer account, and

transmitting the generated set of multiple identifiers to a customer transaction device for use in communications between the computer account system and the customer transaction device.

35. The method of claim 33, further comprising generating at least one cryptographic key for use in communications between the computer account system and the customer transaction device.

36. A computer account system at an agency, said system comprising:

a plurality of customer account records, wherein each customer account record incorporates a set of multiple identifiers associated therewith, and

an index that maps identifiers to corresponding account records,

wherein the system is configured to:

receive a request for a transaction on a customer account, wherein the request comprises a digital signature generated by a transaction device associated with the customer account,

access an identifier within the request in order to determine which set of multiple identifiers and hence which customer account the accessed identifier belongs to, and

access the digital signature within the request and use a cryptographic key to validate the digital signature.

37. The system of claim 36, wherein the multiple identifiers associated with the customer account record are unique to that account record.

39. A computer account system at an agency, said system comprising:

means for storing a plurality of customer account records, wherein each customer account record incorporates a set of multiple identifiers associated therewith,

means for mapping identifiers to corresponding account records,

means for accessing an identifier within a received transaction request to determine which set of multiple identifiers and hence which customer account the accessed identifier belongs to,

means for accessing a digital signature comprised within the received transaction request and validating the digital signature, and

means for updating the customer account to which the accessed identifier belongs in accordance with the received transaction request.

IX. EVIDENCE APPENDIX

No evidence submitted under 37 CFR §§ 1.130, 1.131 or 1.132 or otherwise entered by the Examiner is relied upon in this appeal.

X. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.